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United States
Department of
Agriculture

Soil
Conservation
Service

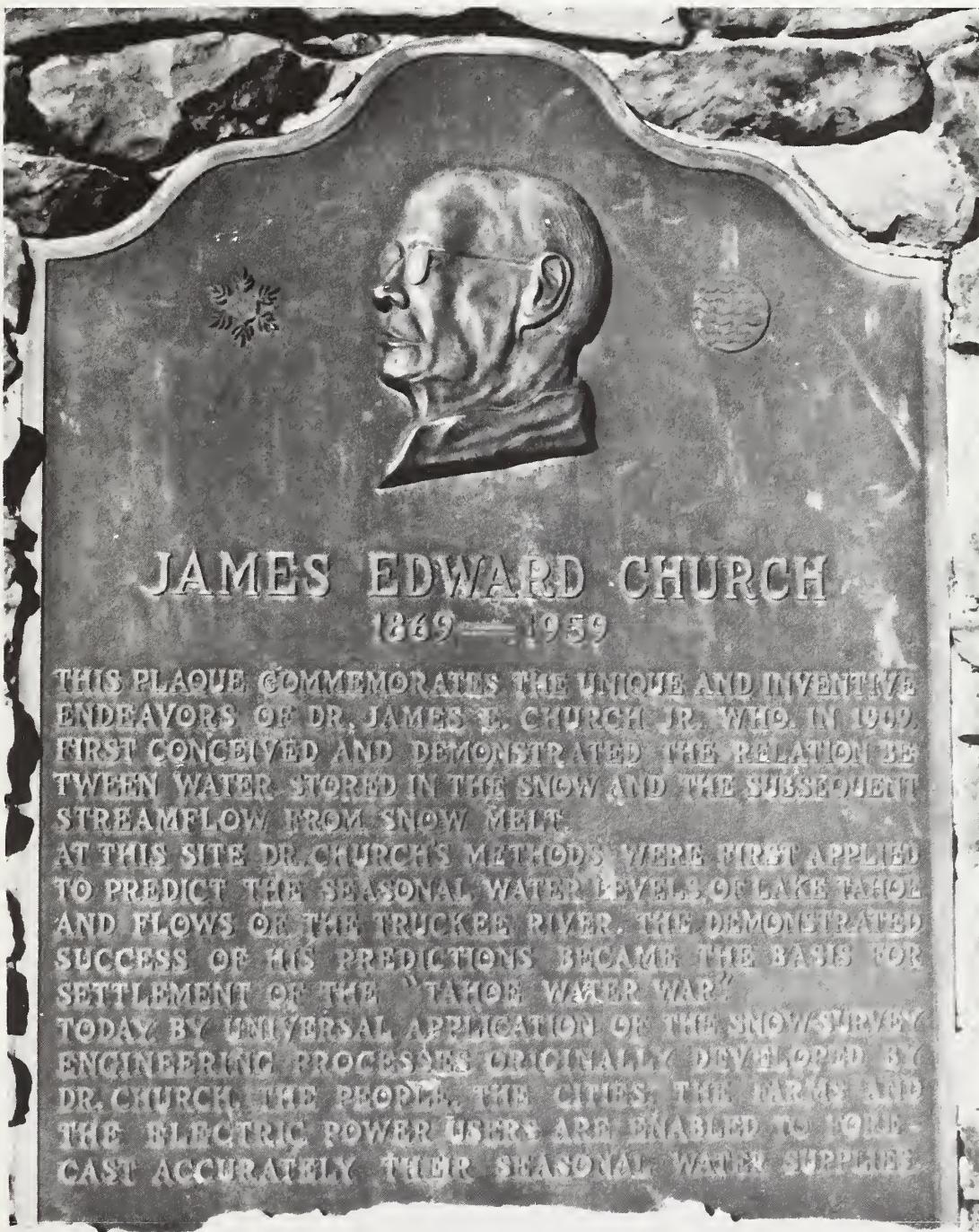
Boise,
Idaho

Idaho Water Supply Outlook



April 1, 1989

17
APRIL
1989



Foreword

How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

An error is associated with each forecast, and this error decreases as the season progresses and more data becomes available. To express the range of error that can be expected, "most probable" forecasts are issued along with a range representing a "reasonable minimum" and a "reasonable maximum". Actual streamflow can be expected to fall within this range in eight out of ten years. Additionally two specific scenarios are provided based on the assumption that subsequent precipitation will be "wet", above average, or "dry", below average.

For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola Ave., Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Building A, 3rd floor, Denver, CO 80211
Idaho	3244 Elder Street, Room 124, Boise, ID 83705
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	W. 920 Riverside, Room 360, Spokane, WA 99201-1080
Wyoming	Federal Building, 100 "B" Street, Room 3124, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

Water supply reports published by other agencies:

California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

Idaho Water Supply Outlook

and

Federal — State — Private Cooperative Snow Surveys

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COVER: This plaque on the outlet gate at Lake Tahoe, Nevada,
commemorates the start of snow surveys in 1909.

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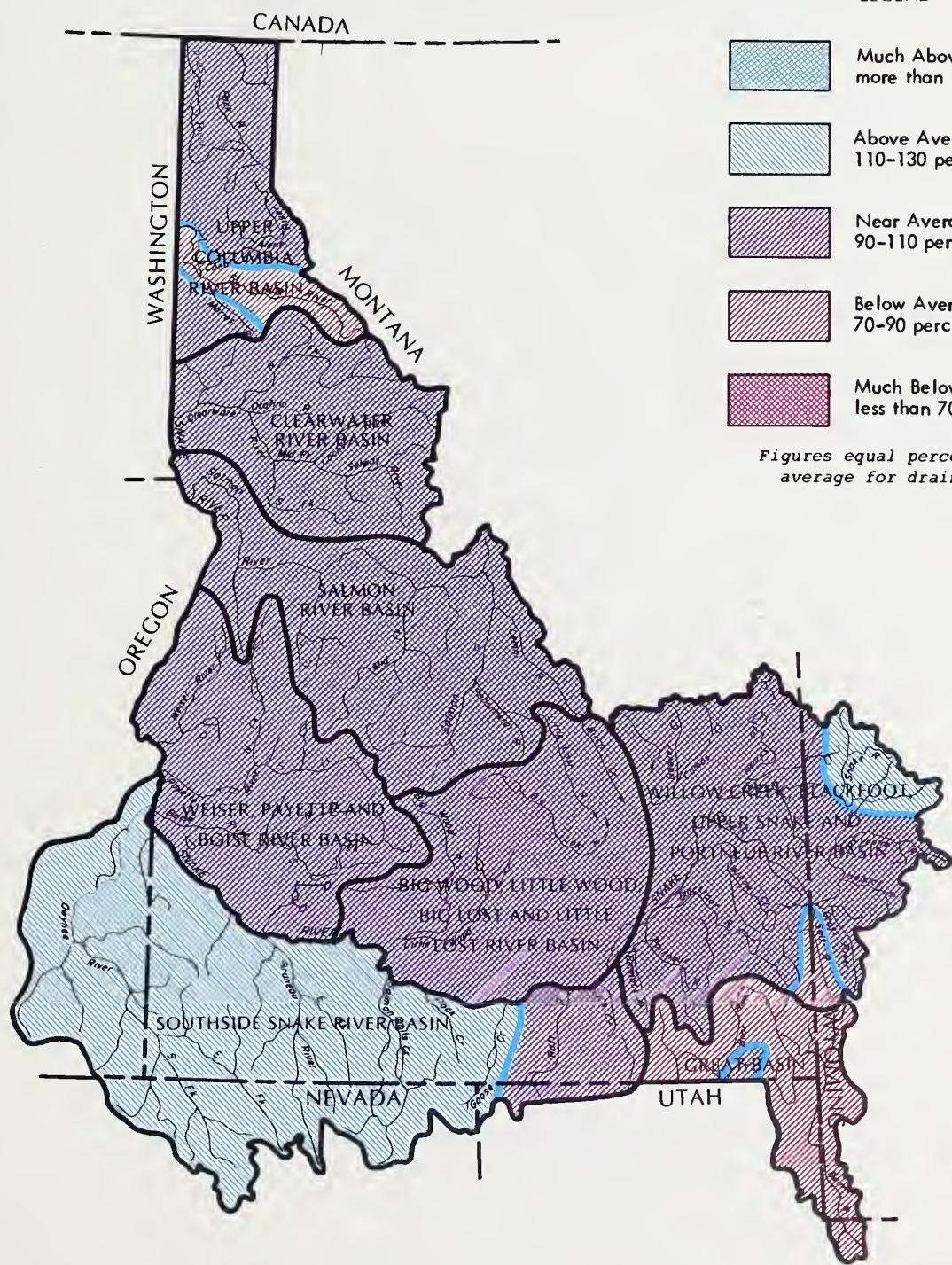
STREAMFLOW PROSPECTS IDAHO

0 25 50 75 100 MI
 0 50 100 150 KM

LEGEND

-  Much Above Average
more than 130 percent
-  Above Average
110-130 percent
-  Near Average
90-110 percent
-  Below Average
70-90 percent
-  Much Below Average
less than 70 percent

Figures equal percent of average for drainage.



GENERAL OUTLOOK

SUMMARY:

ABUNDANT PRECIPITATION DURING MARCH HAS IMPROVED IDAHO'S MOUNTAIN SNOWPACK FOR APRIL 1, PROMISING ADEQUATE WATER SUPPLIES FOR MOST AREAS OF THE STATE. THE TIMING OF THE SNOWPACK MELTOUT AND THE AMOUNT AND TIMING OF SPRING AND SUMMER RAINFALL ARE THE ONLY REMAINING UNKNOWN IN IDAHO'S 1989 WATER SUPPLY PICTURE.

SNOWPACK:

Idaho's mountain snowpack shows improvement across much of the state as a result of a very wet March. April 1 snowpack figures continue to hover around normal, ranging from 85 to 127% of average statewide. North Idaho snowpacks are reported to be near normal, ranging from a low of 93% of normal on the St. Joe River basin to 103% on the Selway drainage. Exceptions to this are in the low elevations near Coeur d'Alene and Moscow where snowpacks remain well above normal. In central Idaho, snowpacks are near or slightly above normal, ranging from 92% of average on the Little Wood River to 112% on the Boise basin. Again, exceptions are found in the lower elevations where snowpacks are above to well above average. In eastern Idaho and western Wyoming, snow conditions range from 83% of normal on the Salt River to 119% on the Willow Creek basin. Basins on the south side of the Snake report above normal snowpacks, ranging from 102% on the Raft River to 138% on the Owyhee basin. Snowpacks in the Great Basin remain slightly below average, ranging from 85 to 99% of normal.

RESERVOIRS:

A combination of abundant precipitation and low elevation snowmelt produced near to above average streamflows over much of the state during March. As a result, most reservoir storage levels show good improvement for the month. Twenty-seven key reservoirs across the state now report a combined storage of 88% of average and 58% of capacity, ranging from a low of 27% of average in Jackson Lake to 144% in Brownlee Reservoir. Most reservoirs report between 60 and 120% of normal storage. Current storage levels coupled with Apr-July streamflow forecasts indicate nearly all major reservoir systems in the state will fill to capacity.

PRECIPITATION:

Valley precipitation stations indicate all areas of the state received above to well above normal amounts of moisture during March, with the state as a whole showing 195% of normal. The lowest totals were found in Dixie and Salmon which reported 105% and 109% of average respectively. Stations in the Snake River Plain in south central and southwestern Idaho reported the highest amounts with Burley at 371%, Twin Falls at 337%, and Boise at 336% of normal accumulations for the month. In general terms, the northern third of the state received 150 to 200% of average precipitation, except Porthill which reported 119%. Central Idaho received 150 to 180% while southern Idaho received 200 to over 350%. Amounts in extreme southeastern Idaho ranged from 130 to 170%.

Temperatures were generally a little above normal for the month. Salmon recorded a departure from average of plus 4.4 degrees and Lewiston a plus 3.4 degrees. There was a brief cold outbreak the first few days of March followed by an unusually warm spell the 8th through the 12th of the month. The remainder of March brought near normal temperatures.

STREAMFLOW:

Streamflow forecasts show a slight improvement over those issued a month ago and now range from slightly below to slightly above average throughout the state. North and central Idaho streamflows are forecast to be near normal, ranging from 89% on the Spokane River to 102% on the Boise and Weiser Rivers. Eastern Idaho streams are expected to yield near to slightly above average streamflow volumes for the season, ranging from 103% on the Portneuf to 118% for the Snake near Moran. Basins on the southside of the Snake are forecast to produce above normal flows, ranging from 113 to 120% of average. Streamflow projections in the Bear River basin remain below normal, ranging from 66% for the Bear River to 91% on the Cub River. Generally speaking, the 1989 irrigation water supply is expected to be good throughout the state. Minor shortages may be experienced in areas of extreme southeastern Idaho where forecasts are below normal. Supplies on the Oakley and Salmon Falls Reservoir systems may also fall short of full allotments but will be much improved over the 1988 supplies.

RECREATIONAL OUTLOOK:

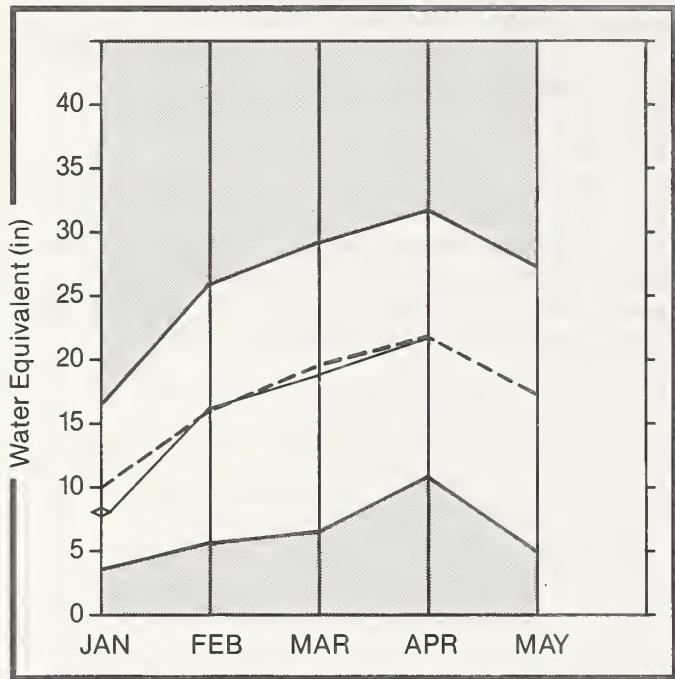
While above normal precipitation in March dampened the spirits of many early season recreationists, the augmented snowpack virtually guarantees a good boating season. Central Idaho watersheds such as the Salmon and Selway showed significant gains in snowpack. The timing and length of the runoff season will be determined by temperatures and additional precipitation. As usual, the Owyhee and Bruneau Rivers lost some snowpack in March. However, the boating should remain good into May on the Owyhee and possibly into June on the Bruneau. Peak runoff on central Idaho streams can be expected in the mid-May to mid-June period. Variable weather and runoff conditions will necessitate an extra degree of safety planning to insure an enjoyable spring outdoor recreation season.

SOIL MOISTURE:

Heavy rainfall in March coupled with snowmelt in the lower elevations has significantly improved soil moisture conditions in the valleys and lower mountain areas of the state. Soils in these areas now have above normal moisture contents. Precipitation in the higher elevations continued to fall in the form of snow and most mountain soils remain dry. The degree of snowmelt water loss into the soils will depend largely on the weather conditions during the melt period. An early, prolonged melt season would produce low melt rates and allow much of the snowmelt to infiltrate the soil mantle. On the other hand, if the melt season is delayed into late spring, the higher probability of warm temperatures should provide melt rates exceeding the soil's infiltration capacity, consequently generating more runoff.

Upper Columbia Basin

Mountain snowpack* (inches)



*Based on selected stations

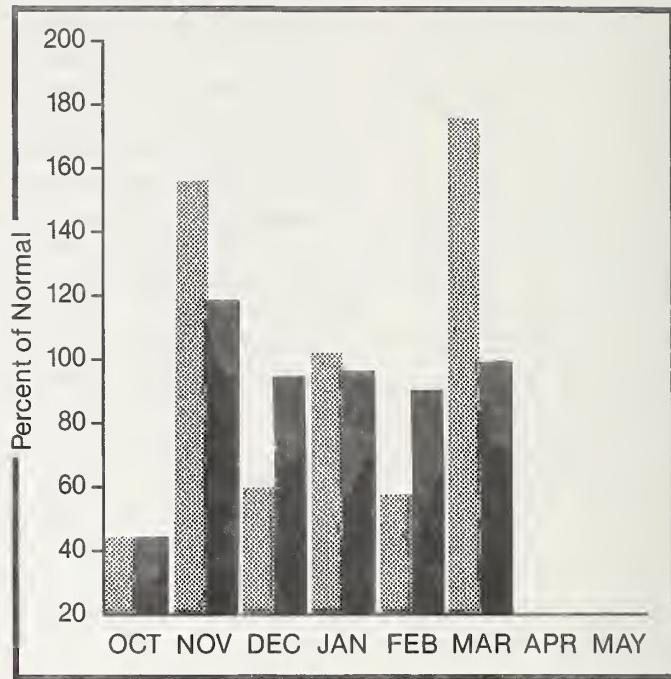
Maximum

Average

Minimum

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

WATER SUPPLY OUTLOOK:

April 1 snowpack conditions have improved slightly from the March 1 figures and are now near normal, ranging from 93 to 99 percent of average on all major river basins. The lower elevations in the Coeur d'Alene and Moscow areas continue to report much above normal snowpacks. The Hayden Lake and Palouse River basins report 162 and 167% of normal snowpacks, respectively. Spring runoff in these low elevation basins is expected to be well above normal. Elsewhere, Apr-Sept streamflows are forecast to be near or slightly below normal, ranging from 89% for the Spokane River to 97% for Pend Oreille Lake inflow. Abundant precipitation along with low elevation snowmelt during March has produced good streamflow volumes, and reservoir storage levels now range from 69 to 118% of average.

UPPER COLUMBIA RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
KOOTENAI at Leonia (2)	APR-SEP	7990	95			9510	6390	8441
	APR-JUL	6950	95			8270	5560	7340
	APR-JUN	5600	95			6660	4480	5899
CLARK FORK at Whitehorse Rapids (2)	APR-SEP	13000	97			15700	10300	13370
	APR-JUL	11800	97			14200	9370	12150
	APR-JUN	10000	97			12100	7930	10360
PEND OREILLE LAKE inflow (2)	APR-SEP	14500	97			17500	11700	14930
	APR-JUL	13200	97			15900	10600	13650
	APR-JUN	11400	97			13800	9280	11780
FRIEST nr Priest River (2)	APR-SEP	860	96			1080	645	893
	APR-JUL	805	96			1010	610	838
COEUR D'ALENE at Enaville	APR-SEP	760	92			1010	520	830
	APR-JUL	725	92			960	495	789
SPOKANE nr Post Falls (2)	APR-SEP	2510	89	2790	2230	3190	1830	2820
	APR-JUL	2420	89	2750	2090	3070	1770	2723
ST. JOE at Calder	APR-SEP	1160	91	1250	1070	1420	905	1281
	APR-JUL	1090	90	1200	980	1330	850	1211

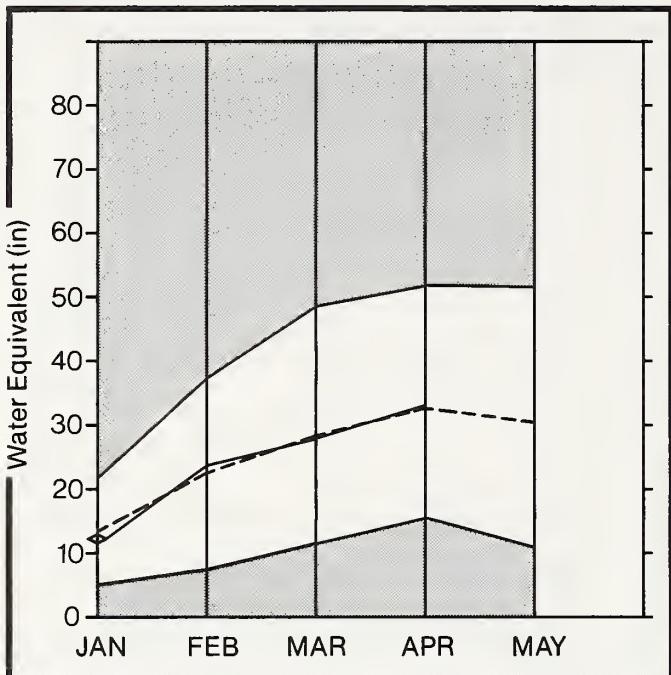
RESERVOIR STORAGE (1000AF) | WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **	WATERSHED	NO. COURSES	THIS YEAR AS % OF
	THIS YEAR	LAST YEAR	Avg.	Avg'D	Last Yr. Average
HUNGRY HORSE	3451.0	1128.0	843.0	2098.0	Kootenai ab Bonners Ferry 52 127 94
FLATHEAD LAKE	1791.0	675.0	868.0	753.0	Moise River 3 131 97
PEND OREILLE	1561.2	562.1	536.0	813.7	Pend Oreille River 165 128 99
NOXON RAPIDS	335.0	304.3	306.3	213.6	Clark Fork River 114 124 96
COEUR D'ALENE	291.2	243.2	194.2	234.3	Priest River 7 125 94
FRIEST LAKE	97.7	46.8	42.8	39.8	Rathdrum Creek 0 0 0
					Hayden Lake 3 265 162
					Coeur d'Alene River 9 146 96
					St. Joe River 10 120 93
					Spokane River 22 134 98
					Palouse River 2 544 190

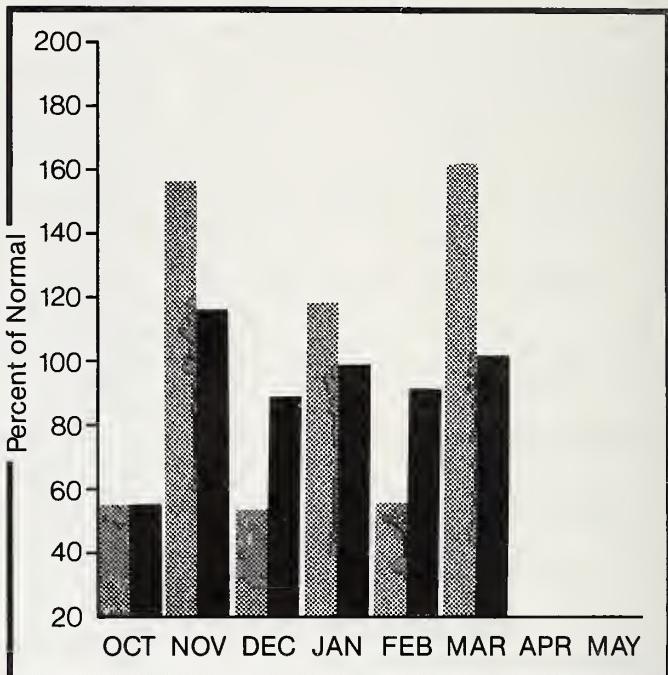
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
 REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
 (1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
 (2) - Corrected for upstream diversions or changes in reservoir storage.

Clearwater River Basin

Mountain snowpack* (inches)



Precipitation* (percent of normal)



*Based on selected stations

*Based on selected stations

Maximum

Average

Minimum

Current

Monthly precipitation

Year to date precipitation

WATER SUPPLY OUTLOOK:

Snowpack conditions on the Clearwater basin show a good improvement from the March 1 figures and are now near normal. Basin snowpacks range from 96% of normal on the North Fork Clearwater to 103% on the Selway. Low elevation snow courses in the Moscow, Bovill, and Pierce areas however, report above average snowpacks ranging from 125 to 160% of normal. Low elevation tributaries draining these areas are expected to produce above normal flows, while the North Fork and Clearwater mainstem are forecast to yield near normal volumes. Dworshak Reservoir storage also improved during March and is currently very near normal for April 1.

For more information contact your local Soil Conservation Service office.

CLEARWATER RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
OWORSHAK RESERVOIR inflow	APR-SEP	2820	94			3480	2160	3010
	APR-JUL	2650	94			3270	2030	2822
CLEARWATER at Orofino	APR-SEP	4940	96			6280	3600	5163
	APR-JUL	4690	96			5960	3420	4889
CLEARWATER at Spalding	APR-SEP	7970	95			9900	6130	8378
	APR-JUL	7560	96			9380	5820	7916

RESERVOIR STORAGE

(1000AF)

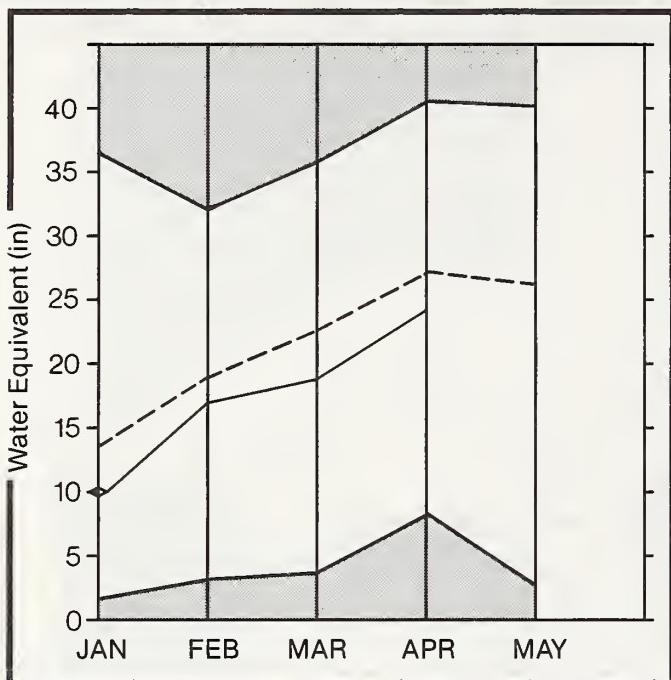
WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.				
OWORSHAK	3467.8	1990.3	1955.1	1996.2	North Fork Clearwater	15	130	96
					Lochsa River	6	115	102
					Selway River	8	117	103
					Clearwater River	25	126	98

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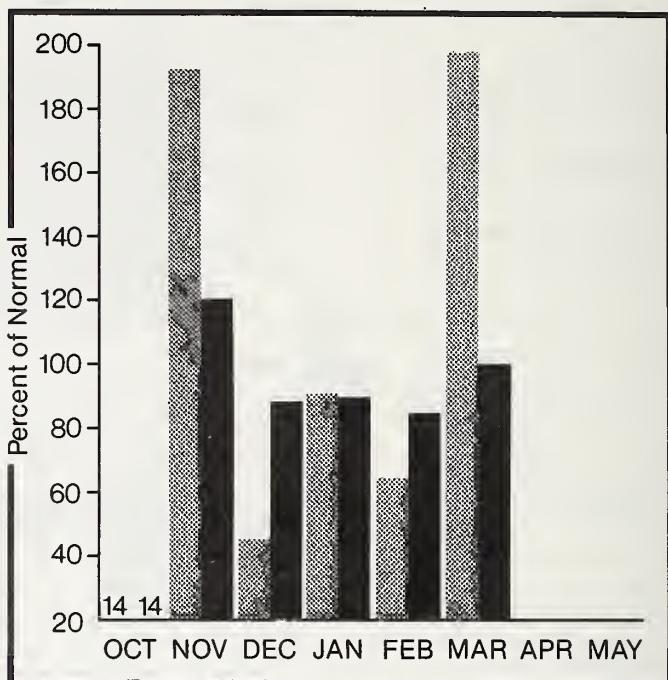
Salmon River Basin

Mountain snowpack* (inches)



*Based on selected stations

Precipitation* (percent of normal)



*Based on selected stations

Maximum

Average

Minimum

Current

Monthly precipitation

Year to date precipitation

WATER SUPPLY OUTLOOK:

March brought much above normal precipitation to the basin with most mountain SNOTEL stations reporting twice their normal amounts for the month. Basin snowpack conditions show a good improvement over the March 1 figures but remain slightly below average, ranging from 91 to 95% of normal. Apr-Sept streamflow volumes are expected to be just slightly below normal and should provide excellent flows for whitewater boating and other recreational uses this spring and summer.

For more information contact your local Soil Conservation Service office.

SALMON RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
SALMON at Salmon	APR-SEP	980	91			1340	625	1077
	APR-JUL	835	91			1140	530	919
SALMON at White Bird	APR-SEP	6520	93			8060	4980	7007
	APR-JUL	5880	93			7270	4490	6322

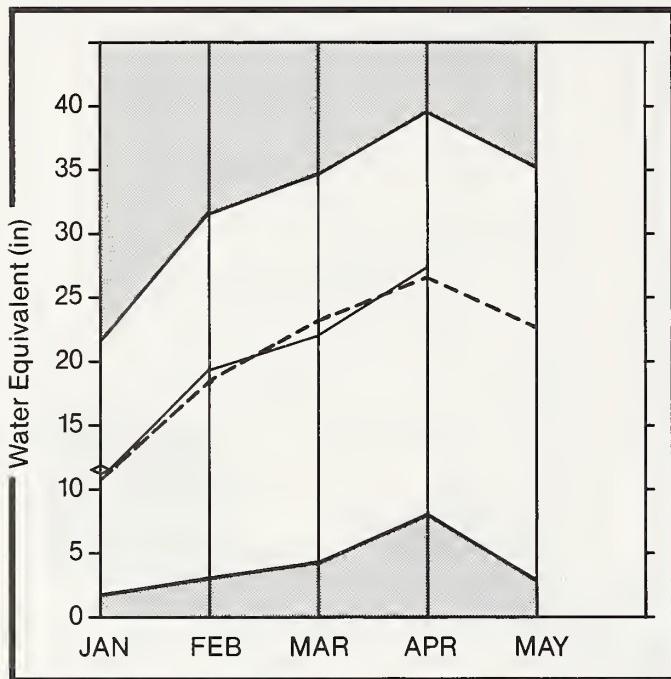
RESERVOIR STORAGE	(1000AF)	WATERSHED SNOWPACK ANALYSIS
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RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **	WATERSHED	NO. COURSES	THIS YEAR AS % OF	
	THIS YEAR	LAST YEAR			AVG'D	LAST YR.
			Salmon River ab Salmon	13	144	95
			Lemhi River	12	114	91
			Salmon River Total	36	136	94

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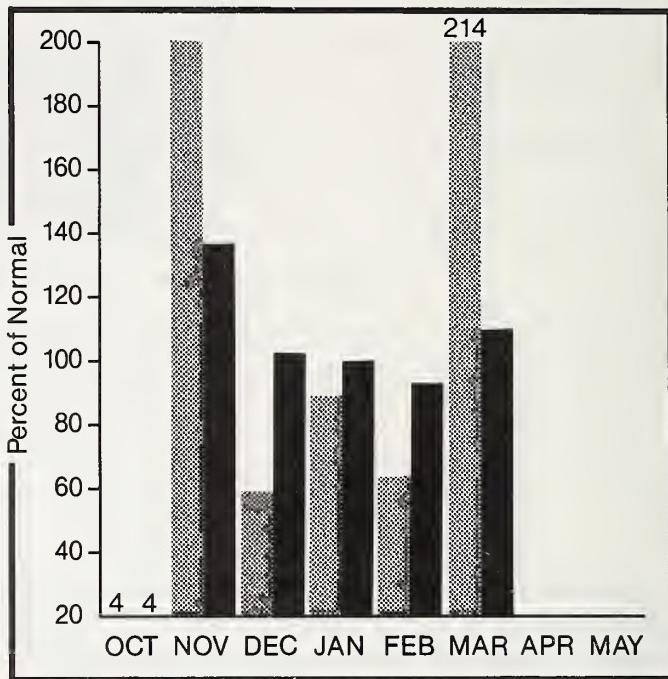
Weiser, Payette, and Boise River Basin

Mountain snowpack* (inches)



*Based on selected stations

Precipitation* (percent of normal)



*Based on selected stations

Maximum Average
Minimum Current

Monthly precipitation Year to date precipitation

WATER SUPPLY OUTLOOK‡

Much above normal precipitation during March brought good improvements to basin snowpack conditions, with most basins showing a 5 to 12% increase in comparison to normal. April 1 snowpacks are generally near to slightly above normal, ranging from 97% of average on the North Fork of the Payette basin to 112% on the Boise basin. Exceptions are found on the Mann Creek drainage near Weiser and the Canyon Creek drainage near Mountain Home which report 127% and 168% of normal snowpacks, respectively. Apr-Sept streamflow volumes are forecast to be near normal, ranging from 98 to 102%. Reservoir carryover storage levels are near to below normal on all major reservoirs except Cascade Reservoir which reports above average storage at 120%. Water supplies for the 1989 irrigation season are expected to be adequate to meet user needs.

WEISER, PAYETTE, AND BOISE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
WEISER nr Weiser	APR-SEP	455	102			640	270	444
	APR-JUL	425	103			595	250	414
NF PAYETTE at Cascade (2)	APR-SEP	555	98			675	435	568
	APR-JUL	520	98			630	410	531
NF PAYETTE nr Banks (2)	APR-SEP	720	98	750	690	860	580	737
	APR-JUL	680	98	715	645	810	550	691
PAYETTE nr Horseshoe Bend	APR-SEP	1830	98	1850	1790	2200	1460	1862
	APR-JUL	1690	98	1710	1670	2030	1350	1717
SF PAYETTE at Lowman	APR-SEP	505	98	505	500	600	410	516
	APR-JUL	450	98	460	435	530	370	458
DEADWOOD RESERVOIR inflow	APR-JUL	139	97			163	115	143
BOISE nr Twin Springs (1)	APR-SEP	740	102	770	710	865	610	722
	APR-JUL	680	102	720	645	795	560	664
BOISE nr Boise (1)	APR-SEP	1650	101	1750	1550	1980	1320	1628
	APR-JUL	1530	101	1640	1420	1830	1230	1508
	APR-JUN	1350	101	1420	1270	1620	1080	1334
SF BOISE at Anderson Ranch Dam (1)	APR-SEP	625	101	655	595	745	515	619
	APR-JUL	585	101	620	550	695	480	578

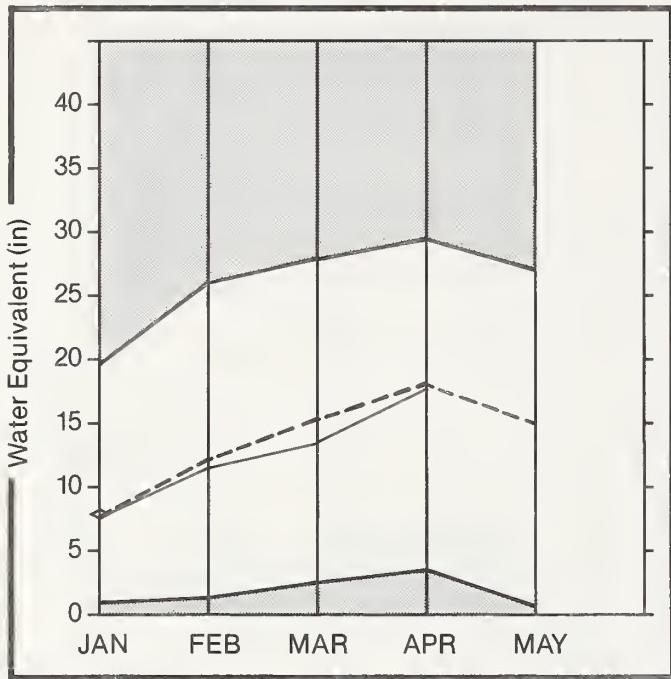
RESERVOIR STORAGE (1000AF) | WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.				
MANN CREEK	11.3	9.7	5.4	8.7	Mann Creek	4	245	127
CASCADE	703.2	452.1	377.4	377.6	Weiser River	8	199	110
DEADWOOD	162.0	67.4	72.0	90.8	North Fork Payette	9	157	97
ANDERSON RANCH	464.2	150.5	134.4	278.1	South Fork Payette	7	160	102
ARROWROCK	286.6	199.2	193.7	227.8	Fayette River Total	16	159	99
LUCKY PEAK	307.0	157.8	123.4	153.2	Middle & North Fork Boise	7	149	102
LAKE LOWELL (DEER FLAT)	177.0	137.1	101.2	152.9	South Fork Boise River	9	189	109
					Boise River Total	18	178	112
					Canyon Creek	2	1258	168

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 (1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
 (2) - Corrected for upstream diversions or changes in reservoir storage.

Big Wood, Little Wood, Big Lost, and Little Lost River Basin

Mountain snowpack* (inches)



*Based on selected stations

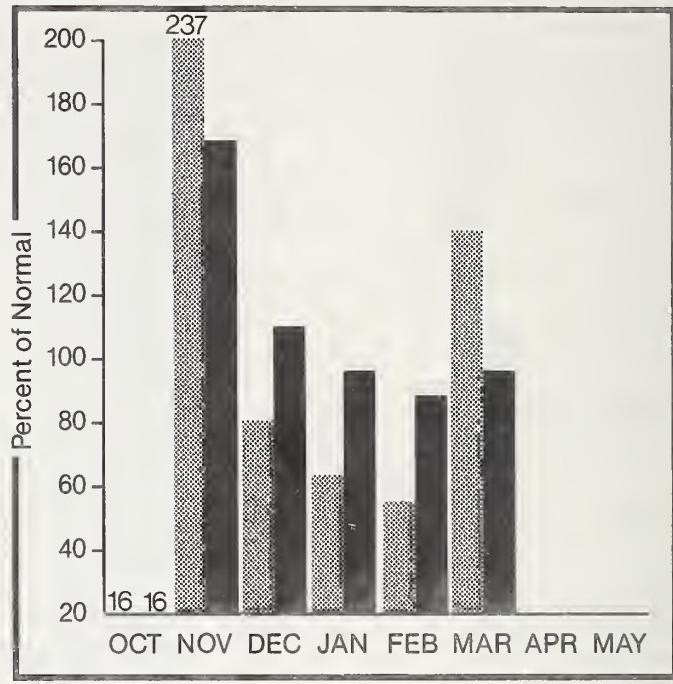
Maximum |||||

Average -----

Minimum |||||

Current ◊———

Precipitation* (percent of normal)



*Based on selected stations



Monthly precipitation

Year to date precipitation

WATER SUPPLY OUTLOOK:

Much above normal precipitation fell over the basin during March with most mountain stations reporting nearly double their normal accumulation. In comparison to normal, basin snowpacks show a 5 to 12% improvement over last month's figures and are now near to slightly above normal, ranging from 92 to 123%. Apr-Sept streamflow projections have been increased slightly and now range from 92% for the Big Wood River to 98% for the Big Lost. Storage volumes in the major reservoirs also improved during March, but remain near to well below normal, ranging from 36% of average in Magic Reservoir to 99% of average in Little Wood Reservoir. Water supplies for the 1989 season should be adequate to meet user needs.

BIG WOOD, LITTLE WOOD, BIG LOST, AND LITTLE LOST RIVER BASIN

STREAMFLOW FORECASTS

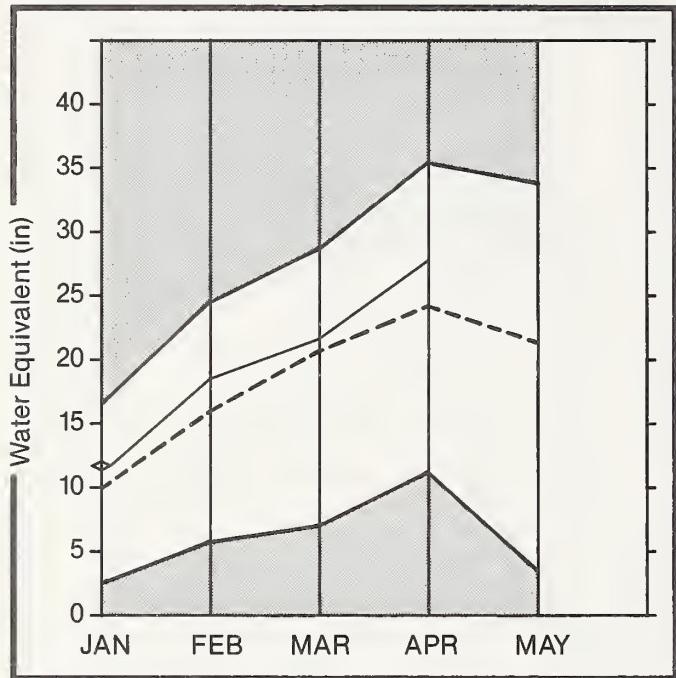
FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
BIG WOOD nr Bellevue	APR-SEP	200	92			260	139	217
	APR-JUL	186	92			245	129	202
MAGIC RESERVOIR inflow	APR-SEP	325	96			425	225	338
	APR-JUL	310	96			405	215	322
LITTLE WOOD nr Carev	APR-SEP	104	97	113	99	132	76	107
	APR-JUL	96	97	104	89	122	69	99
BIG LOST at Howell Ranch nr Chilly	APR-SEP	215	98	225	200	285	147	219
	APR-JUL	189	98	199	177	250	129	192
	APR-JUN	145	98	148	139	191	99	148
BIG LOST b1 Mackay Reservoir (2)	APR-SEP	187	96	197	173	250	125	195
LITTLE LOST b1 Wet Ck	APR-SEP	37	95	40	33	51	23	39
	APR-JUL	30	96	33	27	41	19.0	31
LITTLE LOST nr Howe	APR-SEP	42	95	45	40	57	27	44
	APR-JUL	31	94	33	29	43	20	33

RESERVOIR STORAGE (1000AF)				WATERSHED SNOWPACK ANALYSIS				
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
	THIS YEAR	LAST YEAR	AVG.				Avg'D	LAST YR.
MAGIC	191.5	41.7	40.0	117.4	Big Wood ab Magic	10	166	99
LITTLE WOOD	30.0	18.2	20.3	18.4	Camas Creek	5	384	123
CAREY VALLEY		NO REPORT			Big Wood Total	15	193	104
MACKAY	44.5	26.7	28.4	33.3	Little Wood River	3	367	92
					Fish Creek	3	293	106
					Big Lost River	10	182	101
					Little Lost River	4	147	101

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
 REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
 (1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
 (2) - Corrected for upstream diversions or changes in reservoir storage.

Willow Creek, Blackfoot, Upper Snake, and Portneuf River Basin

Mountain snowpack* (inches)



*Based on selected stations

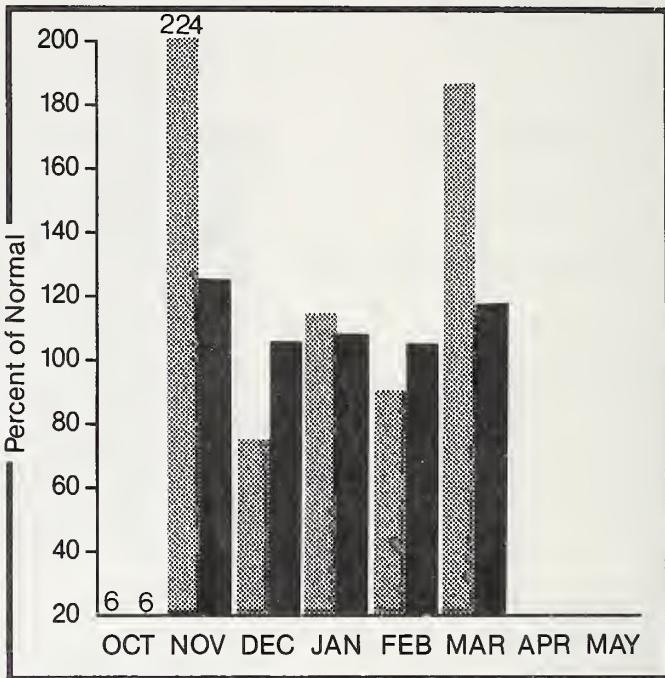
Maximum

Average

Minimum

Current

Precipitation* (percent of normal)



*Based on selected stations



Year to date precipitation

WATER SUPPLY OUTLOOK:

March brought much above normal precipitation to the basin with many mountain stations reporting nearly double their normal March accumulations. Snowpacks in the higher elevation basins show a 10-15% improvement in comparison to normal from a month ago. Lower elevation basin snowpacks remain about the same as last month due to snowmelt and much of the precipitation falling in the form of rain. Basin snowpacks currently range from 97% on the Greys River in Wyoming to 119% on the Willow Creek drainage. One exception is the Salt River basin which reports only 83% of normal snowpack. Streamflow volumes are forecast to be good, ranging from 103% of normal for the Portneuf to 118% for the Snake near Moran. Reservoir storage levels also show good improvement for the month, but remain near to below normal with most reservoirs reporting between 64 and 99% of average volumes. Combined storage for the 8 major reservoirs in the basin is now 75% of normal. Water supplies should be good for the coming season.

WILLOW CREEK, BLACKFOOT, UPPER SNAKE, AND PORTNEUF RIVER BASIN

STREAMFLOW FORECASTS

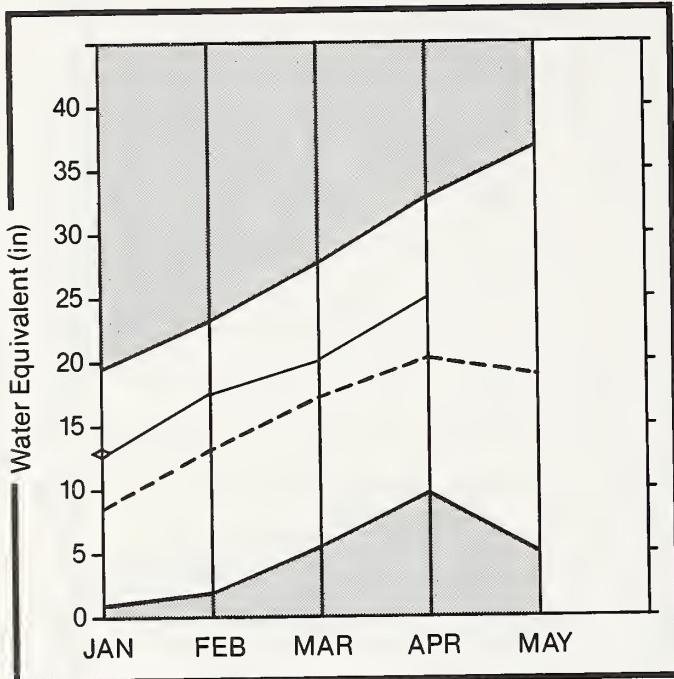
FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
HENRY'S FORK nr Ashton (2)	APR-SEP	785	105	800	770	835	725	746
	APR-JUL	585	105	600	570	625	540	557
HENRY'S FORK nr Rexburg (2)	APR-SEP	1710	107	1760	1660	1950	1450	1595
	APR-JUL	1350	107	1390	1310	1540	1140	1260
FALLS nr Squirrel	APR-JUL	410	110			470	350	373
TETON ab S Leigh Ck nr Driggs	APR-SEP	210	108	220	200	235	185	194
	APR-JUL	158	109	167	149	177	139	145
TETON nr St. Anthony	APR-SEP	525	110			580	470	479
	APR-JUL	425	110			470	380	387
SNAKE nr Moran (1)	APR-SEP	1050	118	1080	1030	1160	935	888
PALISADES RESERVOIR inflow (1)	APR-SEP	4310	112	4390	4230	4930	3690	3852
SNAKE nr Heise (2)	APR-SEP	4610	111	4780	4440	5440	3820	4142
	APR-JUL	3920	111	4100	3740	4620	3250	3524
SNAKE nr Blackfoot (2)	APR-SEP	6250	110	6360	6140	7160	5280	5680
	APR-JUL	5040	110	5180	4900	5770	4310	4589
PORTNEUF at Topaz	MAR-SEP	112	103	114	109	149	75	109
	MAR-JUL	91	103	95	87	121	61	88

RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **	WATERSHED	NO. COURSES	THIS YEAR	AS % OF		
	THIS YEAR	LAST YEAR	AVG.	Avg'd	Last Yr.	Average		
ISLAND PARK	127.6	90.0	132.5	119.3	Camas-Beaver Creeks	6	204	110
GRASSY LAKE	15.2	9.5	9.5	11.2	Henry's Fork River	13	156	120
JACKSON LAKE	624.4	143.9	102.9	525.9	Teton River	9	145	115
PALISADES	1357.0	699.8	913.7	968.2	Snake above Palisades	32	139	107
AMERICAN FALLS	1700.0	1418.8	1567.7	1452.5	Snake above Jackson Lake	10	147	117
BROWNLEE	975.3	645.8	614.0	449.1	Gros Ventre River	3	131	114
BLACKFOOT	348.7	167.8	258.1	260.7	Greys River	5	124	97
HENRY'S LAKE	90.4	69.8	79.4	80.1	Salt River	7	134	83
RIRIE	96.5	48.3	53.6	53.1	Willow Creek	9	162	119
					Blackfoot River	11	162	101
					Portneuf River	13	175	102
					Toponce Creek	4	184	104

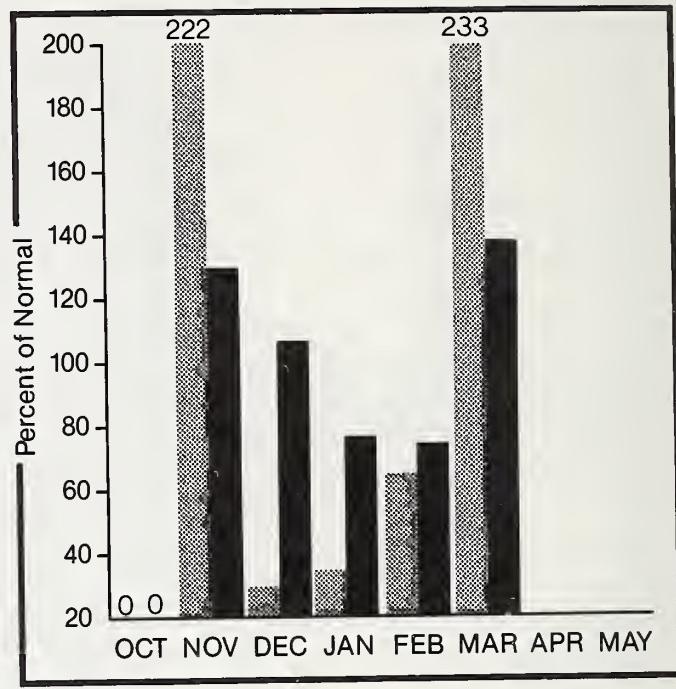
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Southside Snake River Basin

Mountain snowpack* (inches)



Precipitation* (percent of normal)



*Based on selected stations

*Based on selected stations

Maximum

Average

Minimum

Current



Monthly precipitation

Year to date precipitation

WATER SUPPLY OUTLOOK:

Well above normal precipitation fell over the entire basin during March with most mountain stations reporting double their normal accumulation for the month. Much of the low elevation precipitation fell in the form of rain causing lower elevation snowpacks to begin to melt. The combination of melting snow in the lower elevations and above normal accumulations in the high elevations resulted in basinwide snowpack figures remaining about the same as those reported a month ago. Basin snowpacks currently range from 102% on the Raft River basin to 138% on the Owyhee. Seasonal water supply forecasts have been increased slightly and now range from 113% of normal for the Owyhee River near Owyhee to 120% for the inflow to Owyhee Reservoir. Storage in Owyhee Reservoir increased 478,000 acre feet during March and is now 109% of average and 86% of capacity. Oakley and Salmon Falls Creek Reservoirs show good increases, but remain below normal at 54 and 64% respectively.

SOUTHSIDE SNAKE RIVER BASIN

STREAMFLOW FORECASTS

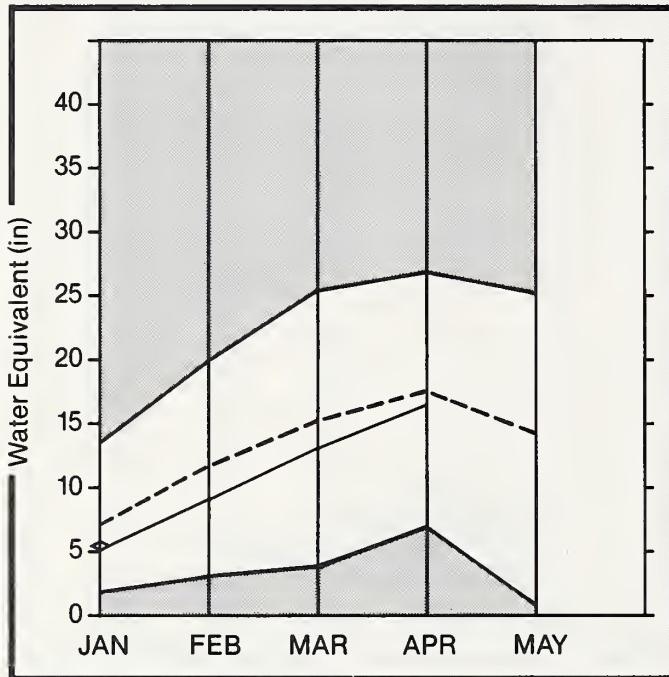
FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS., (1000AF)	DRY SUBS., (1000AF)	REAS. MAX., (1000AF)	REAS. MIN., (1000AF)	25 YR. AVG., (1000AF)
DAKLEY RESERVOIR inflow	APR-SEP	38	115	36	41	50	26	33
	APR-JUL	34	114	33	37	45	23	30
SALMON FALLS CK nr San Jacinto	MAR-SEP	120	118	126	114	157	83	102
	MAR-JUL	114	118	122	106	149	79	97
	MAR-JUN	108	119	114	102	141	75	91
BRUNEAU nr Hot Spring	MAR-SEP	300	115	320	285	395	205	260
	MAR-JUL	285	115	305	270	375	193	248
OWYHEE nr Gold Ck (2)	APR-JUL	32	114	37	27	43	21	28
OWYHEE nr Owyhee (2)	APR-JUL	97	113	112	82	132	62	86
OWYHEE nr Rome (2)	APR-JUL	440	119	455	420	605	275	371
	APR-JUL	440	119	455	420	605	275	371
OWYHEE RESERVOIR inflow (1)	APR-SEP	545	120			725	365	455
	APR-JUL	500	117	575	425	670	330	427

RESERVOIR STORAGE (1000AF)				WATERSHED SNOWPACK ANALYSIS				
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
	YEAR	THIS YEAR	LAST YEAR	Avg.			Avg'D	LAST YR.
DAKLEY	77.4	18.4	16.6	34.0	Rift River	9	144	102
SALMON FALLS	182.6	40.0	46.0	62.3	Goose-Trapper Creeks	6	144	104
OWYHEE	715.0	612.6	288.2	560.6	Salmon Falls Creek	11	131	106
					Bruneau River	11	146	113
					Owyhee River	20	245	138

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Great Basin

Mountain snowpack* (inches)



*Based on selected stations

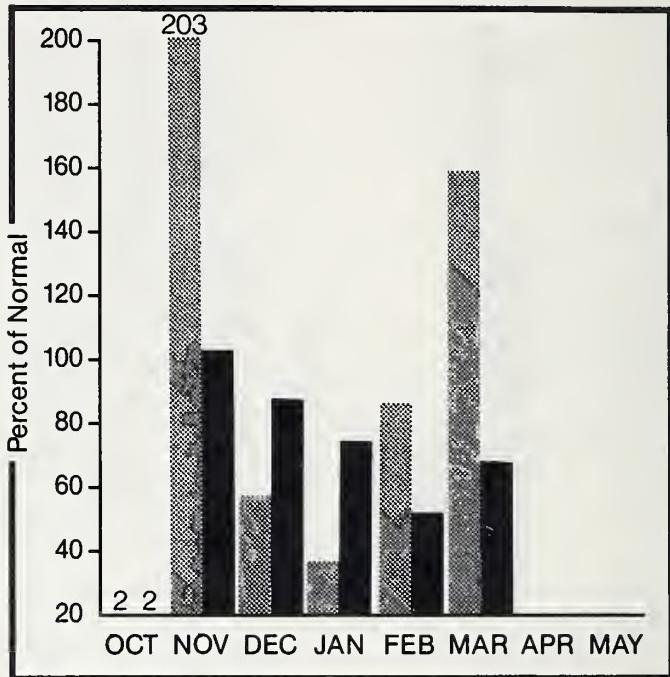
Maximum —————

Average -----

Minimum —————

Current ◆————

Precipitation* (percent of normal)



*Based on selected stations



Monthly precipitation



Year to date precipitation

WATER SUPPLY OUTLOOK:

Although precipitation amounts during March were above to well above normal over much of the area, April 1 snow surveys indicate basinwide snowpacks remain near to slightly below average. Snowpack conditions currently range from 85% of average on the Malad River to 99% on the Cub River. Apr-Sept streamflows are forecast to be below normal, ranging from 66% on the Bear River at Harer to 91% on the Cub River. Reservoir carryover storage volumes continue to lag behind normal with Bear Lake reporting 87% of average storage and Montpelier Creek Reservoir 50% of average.

GREAT BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
BEAR RIVER near Harer	APR-SEP	205	66	215	193	330	78	310
MONTPELIER CK nr Montpelier	APR-SEP	12.0	86			17.3	6.7	13.9
CUB RIVER near Preston	APR-SEP	47	91	50	44			52
	APR-JUL	43	92	46	40	53	33	47

RESERVOIR STORAGE (1000AF) | WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.			LAST YR.	AVERAGE
BEAR LAKE	1421.0	869.0	1064.7	1002.1	Bear River (above Harer)	12	128	89
MONTPELIER CREEK	4.0	0.8	1.2	1.6	Montpelier Creek	5	134	94
					Mink Creek	6	153	97
					Cub River	4	162	99
					Malad River	7	182	85

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SNOW DATA MEASUREMENTS

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85	
UPPER COLUMBIA BASIN														
WATERSHED I						CLEARWATER BASIN						WATERSHED II		
ABOVE BURKE	4100	4/01/89	---	19.0E	15.2	22.6	BREEZY SADDLE	5010	3/30/89	79	28.3	24.8	32.8	
ABOVE ROLANU	4350	4/07/89	79	35.0	24.8	33.1	BUCK MEADOWS	5650	3/30/89	93	35.0	26.6	30.7	
BEAR MOUNTAIN	5400	3/26/89	127	53.9	37.0	61.1	CAYUSE AIRSTRIP	3500	4/01/89	30	11.1	5.5	8.7	
BENTON MEADOW	2370	3/30/89	13	4.4	.0	4.2	COOL CREEK PILLOW	6250	4/01/89	148	.50.1	39.6	52.7	
BENTON SPRING	4920	3/30/89	57	19.6	13.2	19.4	COOL CREEK PILLOW	6280	4/01/89	—	49.2	40.4	49.6	
BREEZY SADDLE	5010	3/30/89	79	28.3	24.8	32.8	COULWATER MOUNTAIN	6030	3/30/89	130	46.1	33.4	34.9	
CONIE RIDGE	3900	4/04/89	31	13.0	3.3	6.2	CRATER MEADOWS	5960	3/30/89	123	43.0	37.7	45.4	
CORNER CREEK	3150	4/04/89	32	13.0	4.6	6.1	CRATER MDWS PILLOW	5960	4/01/89	—	49.5	39.3	48.0	
EAST RAGED SADDLE	3740	4/01/89	58	24.2	—	21.0	CROOKED FORK	3610	3/30/89	37	13.6	12.2	12.4	
EAST TWIN	4130	3/31/89	36	15.6	3.7	8.8	ELK BUTTE	5550	3/30/89	115	38.1	23.1	37.4	
FORTY-NINE MEADOWS	4830	3/30/89	—	27.2E	22.9	31.2	ELK BUTTE PILLOW	5550	4/01/89	—	43.5	29.9	42.0	
FOURTH OF JULY SUM	3200	3/29/89	32	12.4	1.7	7.3	FISH LAKE AIRSTRIP	5650	3/30/89	109	38.0	37.1	40.0	
GRANITE PEAK	6000	4/01/89	110	36.8	34.7	45.4	FORTY-NINE MEADOWS	4830	3/30/89	—	27.2E	22.9	31.2	
HUMBOLDT GULCH	4250	3/30/89	42	14.3	12.8	16.8	GOAT LAKE	6500	4/01/89	127	44.7	38.9	48.0	
HUMBOLDT GLCH PILLOW	4250	4/01/89	—	13.4	7.7	15.8	GRANITE PEAK	6000	4/01/89	110	36.8	34.7	45.4	
KELLOGG PEAK AM	5560	4/07/89	70	28.7	20.0	32.9	HEMLOCK BUTTE	5810	4/01/89	135	50.2	33.3	50.2	
LOOKOUT	5140	3/30/89	82	26.0	25.0	35.1	HEMLOCK BUTTE PILLOW	5810	4/01/89	—	54.8	37.2	51.0	
LOOKOUT PILLOW	5140	4/01/89	—	30.2	25.4	33.6	HOODOO BASIN PILLOW	6050	4/01/89	—	43.1	37.6	48.9	
LOST LAKE	6110	3/30/89	146	47.3	41.6	59.3	HOODOO CREEK	5900	3/28/89	120	42.2	37.8	47.8	
LOST LAKE PILLOW	6110	4/01/89	—	56.9	46.7	66.1	KIT CARSON PASTURE	4950	3/29/89	28	9.2	9.0	8.9	
LOWER SANDS CREEK	3120	3/31/89	64	24.2	13.5	20.0	LOLO PASS	5240	3/30/89	72	25.8	23.8	30.7	
MOSCOW MOUNTAIN	4410	3/31/89	62	25.0	—	17.2	LOLO PASS PILLOW	5240	4/01/89	—	30.2	26.2	33.1	
MOSQUITO RIDGE	5200	4/07/89	97	39.0	27.2	38.2	LOST LAKE	6110	3/30/89	146	47.3	41.6	59.3	
MOSQUITO PILLOW	5200	4/07/89	102	41.5	—	38.7	LOST LAKE PILLOW	6110	4/01/89	—	56.9	46.7	66.1	
ROLAND SUMMIT	5120	4/07/89	91	39.6	33.4	38.2	MOUNTAIN MEADOWS	6360	3/30/89	71	23.1	18.5	23.8	
SAGE CREEK SADDLE	4080	4/04/89	65	23.8	10.9	18.4	MOUNTAIN MDWS PILLOW	6360	4/01/89	—	24.3	22.3	26.2	
SCHWEITZER BASIN	6090	3/29/89	124	48.9	37.8	47.8	NEZ PERCE PASS	6570	3/29/89	49	15.8	15.6	17.8	
SCHWEITZER BN PILLOW	6090	4/01/89	—	47.0	42.4	50.2	PIERCE R.S.	3080	3/31/89	32	14.1	3.4	8.9	
SCHWEITZER BOWL	4800	3/29/89	63	24.9	22.7	30.5	SAVAGE PASS	6170	3/30/89	78	27.4	24.6	27.3	
SCHWEITZER RIDGE	6200	3/29/89	116	45.0	36.5	47.9	SAVAGE PASS PILLOW	6170	4/01/89	—	28.1	24.0	29.0	
SHERWIN	3200	3/30/89	48	18.8	7.7	12.1	SHANGHAI SUMMIT	4570	4/01/89	84	34.3	16.4	26.5	
SKITWISH RIDGE	5110	4/03/89	99	35.0	22.3	33.2	SHANGHAI SUM PILLOW	4570	4/01/89	—	36.4	18.5	27.9	
SMITH CREEK	4800	3/29/89	110	39.0	36.8	46.4	SHERWIN	3200	3/30/89	48	18.8	7.7	12.1	
SUNSET	5540	4/07/89	83	32.4	21.0	33.5	TWIN LAKES	6510	3/29/89	108	41.3	36.7	42.8	
SUNSET PILLOW	5540	4/01/89	—	34.6	26.8	35.8	WEBB CREEK	4720	3/30/89	34	13.0	7.2	9.0	
WEST TWIN	4220	3/31/89	38	15.4	2.0	7.5	WEISER, PAYETTE, ANU BOISE BASINS						WATERSHED IV	
WATERSHED III						WATERSHED III						WATERSHED IV		
ABOVE GILMORE	8200	3/29/89	40	9.4	8.4	10.3	ATLANTA SUMMIT	7600	3/29/89	106	35.9	24.1	35.6	
ASPEN-HALL PASS AM	8200	3/29/89	44	9.4	9.6	10.5	ATLANTA SUM PILLOW	7580	4/01/89	—	33.5	22.7	32.6	
BANNER SUMMIT	7040	3/30/89	90	28.5	18.3	30.8	ATLANTA TOWNSITE	5370	3/30/89	27	9.4	6.6	—	
BANNER SUMMIT PILLOW	7040	4/01/89	—	28.2	18.8	27.9	BANNER SUMMIT	7040	3/30/89	90	28.5	18.3	30.8	
BEAR BASIN	5350	3/27/89	60	22.6	12.0	20.1	BANNER SUMMIT PILLOW	7040	4/01/89	—	28.2	18.8	27.9	
BEAR BASIN PILLOW	5350	4/01/89	—	24.9	15.7	20.3	BAD BEAR	4940	3/30/89	39	17.1	9.3	13.4	
BIG CREEK SUMMIT	6580	3/25/89	99	31.7	24.7	37.5	BEAR BASIN	5350	3/27/89	60	22.6	12.0	20.1	
BIG CREEK SUM PILLOW	6580	4/01/89	—	36.0	20.8	33.9	BEAR BASIN PILLOW	5350	4/01/89	—	24.9	15.7	20.3	
BORAH	6200	4/01/89	38	11.8	5.0	6.1	BEAR SADDLE	6180	4/01/89	88	34.5	13.9	31.4	
BOULDER CREEK	5440	3/31/89	—	21.9E	12.2	23.6	BEAR SADDLE PILLOW	6180	4/01/89	—	32.9	14.8	31.6	
BRUNDAGE MOUNTAIN	7560	3/26/89	—	42.9E	30.3	48.3	BIG CREEK SUMMIT	6580	3/25/89	99	31.7	24.7	37.5	
COPES CAMP	7520	4/02/89	36	8.0	8.4	8.7	BIG CREEK SUM PILLOW	6580	4/01/89	—	36.0	20.8	33.9	
DEAUWOOD SUMMIT	6860	3/30/89	120	42.8	30.4	46.4	BUGS BASIN	6340	3/31/89	86	33.3	17.8	25.2	
DOUBLE SPGS PASS AM	8380	3/28/89	44	12.4	7.1	10.8	BUGS BASIN ROAD	5540	3/31/89	20	7.2	0	2.2	
GALENA SUMMIT	8780	3/30/89	71	21.8	14.6	24.4	BOULDER CREEK	5440	3/31/89	—	21.9E	12.2	23.6	
GALENA SUMMIT PILLOW	8780	4/01/89	—	19.4	14.2	19.6	BRUNDAGE MOUNTAIN	7560	3/26/89	—	42.9E	30.3	48.3	
GIBBONS PASS	7100	3/28/89	67	23.5	18.8	24.0	CAMAS CREEK DIVIDE	5710	4/01/89	44	16.1	1.9	10.2	
LEATHERMAN PASS	9860	4/01/89	78	25.0	15.2	24.8	CHIMNEY CREEK	6400	4/01/89	37	14.9	5.7	13.4	
LEMHI PASS	7480	3/27/89	29	8.2	7.2	9.4	COUCH SUMMIT	6840	4/01/89	—	19.8E	8.9	18.8	
LEMHI RIDGE	8100	3/27/89	38	10.0	10.1	10.8	COZY COVE	5380	3/30/89	32	13.1	7.2	15.8	
MEADOW LAKE	9150	3/29/89	65	18.0	14.1	19.9	COZY COVE PILLOW	5380	4/01/89	—	14.7	—	—	
MEADOW LAKE PILLOW	9150	4/01/89	—	17.3	—	20.2	CRAWFORD R.S.	4860	3/25/89	17	7.2	1.2	5.7	
MILL CREEK SUMMIT	8800	3/27/89	65	20.9	15.8	23.0	DEADWOOD AIRSTRIPE	5360	3/30/89	59	24.5	14.5	16.8	
MILL CREEK ST PILLOW	8800	4/01/89	—	20.1	15.9	21.1	DEADWOOD SUMMIT	6860	3/30/89	120	42.8	30.4	46.4	
MOONSHINE	7440	3/30/89	38	9.5	7.5	10.7	DOLLARHIDE SUMMIT	8420	3/29/89	80	25.6	15.8	25.4	
MOONSHINE PILLOW	7440	4/01/89	—	11.8	10.2	11.4	DOLLARHIDE SM PILLOW	8420	4/01/89	—	27.0	16.5	26.0	
MOOSE CREEK	6200	3/31/89	53	17.0	13.0	16.9	GRAHAM GUARD STATION	5690	3/30/89	38	14.3	10.7	15.5	
MOOSE CR PILLOW	6200	4/01/89	—	18.7	14.2	16.8	GRAHAM G.S. PILLOW	5690	4/01/89	—	15.3	—	17.7	
MORGAN CREEK	7600	3/27/89	40	10.9	9.9	14.3	IDaho CITY TOWNSITE	4000	3/30/89	0	0	0	1.4	
MORGAN CREEK PILLOW	7600	4/01/89	—	11.1	10.2	13.9	JACKSON PEAK	7070	3/30/89	93	31.2	20.8	32.2	
MORSE CREEK SAWMILL	7120	3/29/89	26	8.8	8.1	9.4	LAKE FORK	5290	3/27/89	46	15.3	9.2	16.2	
PERREAU MEADOWS	8500	3/31/89	52	13.9	12.3	17.8	LITTLE CAMAS FLAT	4940	4/01/89	19	7.8	0	4.0	
REDFISH LAKE FLAT	6560	3/30/89	31	10.2	9.5	12.4	MANN CREEK	6080	4/01/89	85	34.8	15.7	26.6	
ROCK FLAT SUMMIT	5310	3/30/89	—	21.9E	12.5	19.1	MOORES CREEK SUMMIT	6100	3/30/89	94	35.0	24.1	33.0	
SADDLE MOUNTAIN	7940	3/28/89	75	26.2	21.1	26.2	MOORES CK SUM PILLOW	6100	4/01/89	—	40.6	26.7	35.2	
SCHWARTZ LAKE	8540	4/02/89	54	12.9	11.6	13.5	PLACER CREEK	5860	3/30/89	52	17.3	12.4	18.9	
SECESH SUMMIT	6520	3/26/89	94	33.8	23.6	36.8	PRAIRIE PILLOW	4800	4/01/89	—	3.1	0	—	
SECESH SUMMIT PILLOW	6520	4/01/89	—	34.7	27.5	37.3	ROAD CREEK	5380	3/30/89	24	9.5	6.9	8.4	
SQUAW MEADOW	5900	3/26/89	88	34.0	23.2	37.0	ROBINSON CREEK RIDGE	6220	4/01/89	69	31.0	12.0	20.7	
TWIN PEAKS	9190	4/01/89	74	23.7	15.2	25.9	ROCK FLAT SUMMIT	5310	3/30/89	—	21.9E	12.5	19.1	
VIENNA MINE	8960	3/30/89	110	37.3	24.1	37.9	SECESH SUMMIT	6520	4/01/89	—	34.7	27.5	37.3	
VIENNA MINE PILLOW	8960	4/01/89	—	34.3	25.8	37.8	SECESH SUM PILLOW	6520	4/01/89	—	35.4	16.6	33.0	
WEST BRANCH	5560	3/31/89	66	24.2	15.2	25.6	SOLDIER R.S.	5740	4/01/89	30	11.6	1.8	10.6	
WEST BRANCH PILLOW	5560	4/01/89	—	24.6	16.3</td									

SNOW DATA MEASUREMENTS (cont.)

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
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SOUTHSIDE SNAKE BASIN							WATERSHED VII						GREAT BASIN
ANTELOPE RIDGE	6180	3/30/89	16	6.6	.0	6.3	CHRISTENSEN RANCH	5560	3/23/89	20	8.3	6.0	8.1
BADGER GULCH	6660	3/30/89	43	16.2	9.0	13.5	CLIFF CANYON	7200	3/23/89	13	4.6	3.4	10.5
BATTLE CREEK	AM 5720	4/05/89	0	.0	.0	1.7	CUB RIVER R.S.	5450	3/23/89	20	7.9	3.5	7.3
BEAR CREEK		3/30/89	75	27.9	19.6	22.2	DANIELS CREEK	6270	3/23/89	13	5.0	3.6	5.2
BEAR CK SNOTEL	7800	4/01/89	—	27.8	18.5	33.9	DRY BASIN	7820	3/23/89	77	27.8	18.0	30.6
BIG BEND	6700	3/27/89	34	13.5	6.0	9.0	DRY CREEK FLAT	6360	3/23/89	11	4.9	2.0	5.8
BOSTETTER R.S.	7500	3/30/89	56	20.5	16.4	20.6	EMIGRANT SUMMIT	7390	3/30/89	66	24.3	16.3	25.9
BOSTETTER RS PILLOW	7500	4/01/89	—	23.7	12.0	18.7	EMIGRANT SUM PILLOW	7390	4/01/89	—	23.3	—	30.0
BOY SCOUT CAMP	7740	3/30/89	52	16.9	13.6	17.0	EMIGRATION CANYON	6500	3/30/89	26	9.8	7.4	11.1
BULL BASIN	AM 5460	4/05/89	0	.0	.0	.6	FRANKLIN BASIN	8020	3/24/89	71	24.5	17.8	28.3
CEDAR CREEK		3/30/89	29	11.2	8.9	10.5	GIVEOUT	6860	3/30/89	39	12.8	10.5	13.2
CLEAR CREEK MEADOWS	9420	3/30/89	77	25.6	17.0	24.1	GIVEOUT PILLOW	6840	4/01/89	—	11.0	11.0	14.4
COLUMBIA BASIN	AM 6650	3/30/89	18	7.0	—	6.9	GIVEOUT NEW	6930	3/30/89	29	9.6	—	11.7
DEADLINE		7400	3/30/89	41	18.1	11.4	LIBERTY SPRING	8600	3/23/89	106	41.0	27.1	40.2
DEADLINE SOUTH	7450	3/30/89	57	22.0	16.9	25.1	LITTLE BEAVER	6790	3/30/89	—	15.5E	13.2	16.2
FAWN CREEK	AM 7050	3/27/89	44	17.2	—	8.6	LOWER ELKHORN	6960	3/23/89	33	13.2	6.9	14.0
FOX CREEK		3/30/89	28	11.3	11.1	10.5	LOWER HOME CANYON	7640	3/30/89	—	14.6E	9.7	14.7
FRY CANYON	6700	3/27/89	15	5.4	.1	6.9	OXFORD MOUNTAIN	6800	3/23/89	20	8.0	3.9	9.6
GEORGE CREEK	8840	3/30/89	70	24.0	15.0	23.2	OXFORD SPRING	6740	3/23/89	24	10.5	4.5	10.7
GOAT CREEK	8800	3/30/89	67	21.5	17.4	19.2	OXFORD SPRING PILLOW	6740	4/01/89	—	9.4	—	12.6
GOLD CREEK	6600	3/27/89	15	5.9	1.7	5.3	STRAWBERRY CREEK	5820	3/30/89	24	9.5	5.7	10.7
HOWELL CANYON	7980	3/30/89	83	32.6	21.0	26.7	STRAWBERRY-NINK DVD	6720	3/23/89	55	22.4	14.3	22.4
HOWELL CANYON PILLOW	7980	4/01/89	—	27.9	—	22.7	UPPER ELKHORN	7140	3/23/89	50	17.9	10.9	19.7
HUMMINGBIRD SPRINGS	8950	3/30/89	87	29.4	23.5	24.7	UPPER HOME CANYON	8560	3/29/89	74	24.7	16.4	25.1
HYDE PASTURE	AM 5760	4/05/89	0	.0	.0	3.5	WILLOW FLAT	6070	3/23/89	43	18.0	10.8	15.5
INDIAN GROVE		7560	3/30/89	40	13.7	8.6	WORM CREEK	6620	3/23/89	51	20.4	11.7	20.2
JACK CREEK, LOWER	6800	3/27/89	3	.5	.2	3.3							
JACKS PEAK	8420	3/27/89	104	32.9	17.6	26.8							
JOHNSTON POND	6700	3/30/89	57	23.6	.0	—							
LANGFORD FLAT CREEK	5980	3/30/89	12	4.8	3.6	5.2							
LAUREL DRAW	6700	3/27/89	28	11.6	8.3	8.4							
LOGGER SPRINGS	8120	3/30/89	60	20.1	14.8	19.7							
LOOKOUT BUTTE	AM 5650	4/05/89	0	.0	.0	.0							
LOUSE CANYON		6440	4/05/89	13	5.2	.0	5.6						
MAGIC MOUNTAIN	6880	3/30/89	55	22.4	15.8	20.1							
MAGIC MTN PILLOW	6880	4/01/89	—	23.6	16.2	20.1							
MERRIT MOUNTAIN	AM 7000	3/30/89	24	9.8	—	5.3							
MUD FLAT		5730	3/30/89	10	4.0	.8	5.3						
MUD FLAT PILLOW	5730	4/01/89	—	4.8	.0	4.8							
ONE MILE SUMMIT	7330	3/30/89	10	2.6	3.8	7.7							
OREGON CANYON	AM 6950	4/05/89	35	14.0	.1	5.8							
POLK CREEK R.S.		8330	3/30/89	62	21.8	20.6	22.0						
QUINN RIDGE	AM 6300	4/05/89	0	.0	.0	1.1							
RED CANYON		6650	4/05/89	19	7.6	.0	6.0						
RODEO FLAT	6800	3/27/89	15	5.2	2.0	6.4							
SEVENTYSIX CREEK	7100	3/27/89	37	13.7	8.4	12.6							
SEVENTYSIX CK SNOTEL	7100	3/27/89	35	13.5S	6.2	—							
SHOSHONE BASIN	5810	3/30/89	—	4.6E	3.4	4.9							
SILVER CITY	6400	3/25/89	52	22.2	11.9	16.0							
SOUTH MOUNTAIN	6500	3/30/89	49	21.9	11.2	14.7							
SOUTH MTN PILLOW	6500	4/01/89	—	31.7	—	14.5							
SUBLETT	5950	3/30/89	27	9.9	8.8	11.3							
SUCCOR CREEK	AM 6100	4/05/89	35	14.4	3.6	6.8							
TAYLOR CANYON		6200	3/27/89	10	3.3	.1	3.7						
TOE JAM AM	7700	3/30/89	34	9.0	—	9.9							
VAUGHT RANCH	AM 5830	4/05/89	0	.0	.0	1.7							
VIPONT		7670	3/30/89	46	16.9	10.2	16.5						
WAR EAGLE	7280	4/05/89	100	42.0	24.8	23.3							
WILSON CREEK	7500	3/30/89	48	18.3	13.2	13.4							
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WATERSHED VIII							WATERSHED VII						

SNOW DATA MEASUREMENTS (cont.)

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
BIG WOOD, LITTLE WOOD, BIG LOST, AND LITTLE LOST BASINS WATERSHED V													
WILLOW, BLACKFOOT, UPPER SNAKE, AND PORTNEUF BASINS WATERSHED VI													
BEAR CANYON	7900	3/29/89	60	18.2	10.6	19.3	ASPEN GROVE	6500	3/30/89	---	11.5E	9.4	12.6
BEAR CANYON PILLOW	7900	4/01/89	---	17.2	10.7	17.3	AUSTIN BROTHERS RNCH	6400	3/31/89	---	8.1E	5.7	8.8
CAMAS CREEK DIVIDE	5710	4/01/89	44	16.1	1.9	10.2	BEAVERDM CREEK	6120	3/31/89	21	5.7	5.0	9.7
CHIMNEY CREEK	6400	4/01/89	37	14.9	5.7	13.4	BIG SPRINGS	6400	3/31/89	68	24.6	12.9	21.4
COPPER BASIN	7640	3/29/89	30	9.1	4.5	10.5	BIRCH CREEK	6800	3/30/89	36	14.0	7.3	11.4
COUCH SUMMIT	6840	4/01/89	---	19.8E	8.9	18.8	BLACK BEAR	7950	3/30/89	136	52.3	36.0	43.2
DOLLARHIDE SUMMIT	8420	3/29/89	80	25.6	15.8	25.4	BLACK CANYON	7960	3/29/89	122	42.4	27.4	--
DOLLARHIDE SM PILLOW	8420	4/01/89	---	27.0	16.5	26.0	BLACK MOOSE	8160	3/31/89	---	55.0E	31.3	40.1
DRY FORK	7220	3/31/89	54	17.2	8.5	16.3	BLUE LEDGE MINE	6900	3/31/89	---	24.3E	10.9	17.5
FISHPOLE LAKE	9300	3/29/89	66	22.1	14.9	22.1	BLUE RIDGE	6780	3/30/89	62	25.6	13.6	19.6
GALENA	7440	3/31/89	---	18.6E	11.9	19.0	BONE	6200	3/30/89	20	7.5	5.6	6.8
GALENA PILLOW	7440	4/01/89	---	18.4	11.9	18.8	BROCKMAN STATION	6430	3/30/89	32	11.5	8.9	9.2
GALENA NEW	7470	3/30/89	69	21.4	13.0	21.3	CAMP CREEK	6580	3/30/89	29	10.2	4.7	11.6
GALENA SUMMIT	8780	3/30/89	71	21.8	14.6	24.4	COULTER CREEK	7020	3/26/89	66	21.8	15.9	22.7
GALENA SUMMIT PILLOW	8780	4/01/89	---	19.4	14.2	19.6	COLD SPRINGS	7000	3/25/89	61	25.3	14.8	22.9
GARFIELD R.S.	6560	3/29/89	24	10.0	.0	10.3	CRAB CREEK	6860	4/01/89	65	21.5	10.5	16.7
GARFIELD R.S. PILLOW	6560	4/01/89	---	11.2	3.1	10.4	CRAB CREEK PILLOW	6860	4/01/89	---	23.7	9.6	17.2
GRAHAM RANCH	6270	3/30/89	47	14.8	6.6	14.5	EAST CREEK	7000	3/31/89	35	10.1	9.0	11.9
HILTS CREEK	8000	3/29/89	47	12.3	7.9	11.6	FALL CREEK	6820	3/30/89	28	10.1	4.5	9.7
HILTS CREEK PILLOW	8000	4/01/89	---	13.8	10.8	13.5	GRASSY LAKE	7270	3/30/89	107	41.4	29.2	36.2
HYNDMAN CREEK	7440	3/29/89	53	15.1	8.4	14.5	GRASSY LAKE PILLOW	7270	4/01/89	---	41.1	28.5	37.5
HYNDMAN PILLOW	7440	4/01/89	---	14.9	8.7	13.2	INDIAN MEADOWS	9420	3/30/89	124	43.0	31.0	38.6
IRON BOG	7650	3/31/89	42	12.7	5.4	13.5	IRVING CREEK	7040	3/31/89	25	7.5	4.4	5.8
IRON MINE CREEK	6300	3/31/89	40	12.4	4.0	11.1	ISLAND PARK	6290	3/31/89	60	21.8	11.0	17.3
LEADBELT	6700	3/31/89	22	6.6	1.9	9.4	ISLAND PARK PILLOW	6290	4/01/89	---	19.0	12.2	16.6
LEATHERMAN PASS	9860	4/01/89	78	25.0	15.2	24.8	JACKPINE CREEK	7350	3/30/89	75	24.9	17.2	22.5
LITTLE CAMAS FLAT	4940	4/01/89	19	7.8	.0	4.0	JOHNSON CREEK	6730	3/31/89	34	12.9	9.6	14.3
LOST-WOOD DIVIDE	7900	3/29/89	79	25.3	15.2	24.0	KILORE	6320	4/01/89	40	14.1	7.2	11.8
LOST-WOOD DVD PILLOW	7900	4/01/89	---	26.8	14.3	25.3	LATHAM SPRINGS	7630	3/29/89	107	40.3	26.1	33.8
MASCOT MINE	7780	3/31/89	---	15.3E	7.8	15.4	LAVA CREEK	7350	3/30/89	55	19.7	11.2	15.1
MOONSHINE	7440	3/30/89	38	9.5	7.5	10.7	LUCKY DOG	6860	3/29/89	89	33.8	20.4	34.4
MOONSHINE PILLOW	7440	4/01/89	---	11.8	10.2	11.4	MADISON PLATEAU	7750	3/30/89	86	30.8	21.6	24.1
MOUNT BALDY	8920	3/29/89	74	21.7	13.2	21.7	MC REYNOLDS RESERVOIR	6720	3/30/89	57	19.3	12.1	20.2
MULDOON	6320	3/29/89	9	3.7	.0	6.9	MINK CREEK	6410	3/31/89	59	22.4	11.1	19.2
SAWMILL CANYON	7000	3/30/89	27	8.5	4.6	7.9	MUD CREEK	7100	3/30/89	74	26.3	17.0	19.8
SOLDIER R.S.	5740	4/01/89	30	11.6	1.8	10.6	NORTH PUTNAM	7240	3/31/89	81	32.2	15.2	29.0
SOLDIER R.S. PILLOW	4330	4/01/89	---	12.9	2.4	---	PACKSADDLE SPRING	8200	3/30/89	99	36.2	24.2	30.3
STICKNEY MILL	7430	3/29/89	30	9.2	5.1	10.4	PEBBLE CREEK	6550	3/25/89	40	13.8	9.1	16.4
STICKNEY MILL PILLOW	7430	4/01/89	---	8.7	3.8	9.6	PHILLIPS BENCH	8200	3/30/89	108	36.4	24.9	30.5
SWEDE PEAK	7640	3/29/89	59	19.0	8.9	18.3	PHILLIPS BENCH PILL.	8200	4/01/89	---	37.1	22.6	29.0
SWEDE PEAK PILLOW	7640	4/01/89	---	18.5	---	16.4	PINE CREEK PASS	6810	3/31/89	57	21.6	14.5	17.8
TELFER RANCH	5840	3/31/89	21	7.0	.0	7.0	PUTNAM	7220	3/30/89	61	20.7	12.2	21.4
VIENNA MINE	8960	3/30/89	110	37.3	24.1	37.9	SAWTELL MOUNTAIN	8720	3/31/89	128	45.7	29.1	36.5
VIENNA MINE PILLOW	8960	4/01/89	---	34.3	25.8	37.8	SEDGWICK PEAK	7850	3/31/89	60	20.4	10.8	18.6
WET CREEK SUMMIT	7680	3/29/89	42	13.1	9.6	12.8	SHEEP MOUNTAIN	6570	3/30/89	32	12.6	9.8	14.1
							SHEEP MTN PILLOW	6570	4/01/89	---	17.1	10.9	16.6
							SLUG CREEK DIVIDE	7230	3/29/89	40	14.0	11.0	17.6
							SLUG CK DVD PILLOW	7230	4/01/89	---	16.2	13.0	20.0
							SOMSEN RANCH	6840	3/31/89	41	16.1	10.5	15.1
							SOMSEN RANCH PILLOW	6800	4/01/89	---	12.9	9.7	14.8
							STATE LINE	6660	3/31/89	50	17.8	13.9	15.0
							SULPHUR PEAK	7070	3/31/89	---	14.7E	10.5	16.9
							TARGHEE PASS	6980	3/31/89	---	16.4E	9.8	16.1
							TETON PASS W.S.	7740	3/30/89	94	31.8	21.6	26.8
							TEX CREEK	6650	3/30/89	---	9.6E	6.7	10.2
							TOPONCE	6160	3/30/89	42	15.9	9.0	17.1
							TWITCHELL CANYON	6300	3/31/89	50	20.6	12.1	16.9
							VALLEY VIEW	6680	3/31/89	52	18.4	10.8	17.7
							WEBBER CREEK	6700	3/31/89	20	6.8	3.8	6.0
							WHISKEY CREEK	6800	4/01/89	76	28.3	17.0	21.8
							WHITE ELEPHANT	7710	3/31/89	100	34.3	20.1	26.6
							WHITE ELEPHANT PILL	7710	4/01/89	---	38.4	22.0	27.8
							WILDHORSE DIVIDE	6490	3/31/89	55	20.4	9.9	17.9
							WILDHORSE DVD PILLOW	6490	4/01/89	---	21.5	10.2	17.4
							WOOD CANYON DIVIDE	7450	3/31/89	---	18.3E	11.6	i9.8

The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

State	Idaho Department of Water Resources Soil and Water Conservation Districts of Idaho
Federal	U.S. Department of Agriculture Forest Service U.S. Department of Army Corps of Engineers U.S. Department of Commerce NOAA, National Weather Service U.S. Department of Interior Bureau of Reclamation Geological Survey, Water Resources Division Shoshone-Bannock Tribal Council
Local	Big Lost River Irrigation District Big Wood Irrigation Company Boise Project Board of Control Idaho Water District #01 Lewiston Orchards Irrigation District Little Wood River Irrigation District North Board of Control — Owyhee Project Salmon Falls Irrigation Company South Board of Control — Owyhee Project
Private	Cyprus Mining Company FMC Corporation Idaho Power Company Le Bois Resort Washington Water Power Company

Other organizations and individuals furnish information for the snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

ROOM 124

3244 ELDER STREET
BOISE, IDAHO 83705

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